

MATH 182
Fundamentals of Mathematics II
General Syllabus

Course Number and Prefix:	MATH 182
Title:	Fundamentals of Mathematics II
Credits:	2 credits
Prerequisites:	None

Course Description: This is the second of a 3-course sequence particularly pertinent to prospective arithmetic teachers, presenting probability, statistics, measurement, and applications of mathematics from a modern approach. Mathematics content will be presented in a problem solving and exploratory context.

Course Obligations: As part of the General Education Program, successful completion of MATH 181/182 satisfies the Category 2 Mathematics Skills Area requirement. The ultimate goal of this course sequence is to increase content knowledge, broaden teaching practices and foster confidence in teachers of elementary mathematics. MATH 181 course content involves:

- use of mathematics to structure understanding of and investigate questions in the world around us.
- treating mathematical content at an appropriate level.
- use of numerical, graphical and algebraic representations.
- interpretation of data, analysis of graphical information and communication of process and solutions in written and oral form.
- use of mathematics to formulate and solve problems.
- using technology such as calculators and computers to support use of mathematics.

Course Objectives: Upon successful completion of this course, students will be able to:

- use standard and non-standard units of measure to solve problems concerning distance, perimeter, area, surface area, volume and weight.
- solve problems involving angle measure and identification of angles.
- compute the descriptive statistics of a given set of data.
- graph sets of data and interpret graphs of data.
- use the tools of inferential statistics to analyze data sets.
- solve problems in probability.

Course Requirements:

- 1 Comprehensive final examination
- 2 Midterm
- 3 Homework and assignments
- 4 Project
- 5 Attendance
- 6 Participation

Method of Evaluation:

- 7 94% < A
- 8 84% < B ≤ 94%
- 9 74% < C ≤ 84%
- 10 64% < D ≤ 74%
- 11 F ≤ 64%

To calculate the grade, divide the total number of points earned by the total number of points possible and express the answer as a percent.

Outline of Course Content:

- Probability
 - Theoretical vs experimental
 - Single-stage experiments
 - Multi-stage experiments
 - Simulations
- Statistics
 - Abuses of statistics
 - Sampling
 - Graphical representations
 - Descriptive stats
 - Scatterplots and relationships
- Measurement
 - Informal units and standard units
 - Measuring length
 - Measuring area
 - Measuring volume and capacity
 - Measuring weight and mass
 - Measuring angles

Required Texts and Materials:

- Bennett, A. & Nelson, L. (2000). Mathematics for elementary teachers: A conceptual approach (5th Ed.). Madison, WI: McGraw Hill.
- Ashlock, R. (2001). Error patterns on computation (8th Ed.). Upper Saddle River, NJ: Prentice-Hall.

Students who believe that they may need accommodations in this class are encouraged to contact the Disability Access Center (970) 351-2289 as soon as possible to ensure that accommodations are implemented in a timely fashion.